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# Alfred Russel Wallace Notes 21: Wallace and the Doorway to the Universe

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# *Alfred Russel Wallace Notes 21:* Wallace and the Doorway to the Universe.

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*Summary:* An important yet largely unrecognized theme in the thought of Alfred Russel Wallace (1823–1913) was his insistence that all dependably-reported phenomena, even those of aberrant nature, were worthy of a respectful kind of attention: that is, a kind which did not automatically banish difficult subjects to the realm of myth or superstition. In this work, Wallace's philosophy in this direction is documented, and linked to the world of post-Age-of-Enlightenment revisionism. *Key words:* Alfred Russel Wallace, paranormal, extraterrestrial life, spiritualism, history, literalism

## ***Introduction***

One of the most interesting things about Alfred Russel Wallace (1823-1913) was his native prescience: that is, the frequency with which his thoughts anticipated later scientific and social developments. Now in some cases he was an outright originator or pioneer, but in many others he was merely 'ahead of his time,' a voice for progress whose efforts were often ignored during his own days. Some of these instances of prescience have since been acknowledged and investigated by historians – for example, his identification of “well-being” as an economic/political goal (Collard 2009, 2019), uneasiness with the statistics of vaccination (Fichman & Keelan 2007), and pioneering of elements of the anthropic principle in astronomy (Tipler 1981) – but I would maintain that we have far from exhausted this general subject.

There are at least two kinds of importance to such exploration. Not inconsequentially, fairness to Wallace himself is one issue. Wallace has, since his own time, been a subject of controversy for his wide-ranging views, extending to then (and, often, now!) intellectually unpopular topics such as spiritualism, socialism, and anti-vaccinationism. At the same time, a good number of his ideas have had sufficient merit to guide intellectual advances appreciated by even the most conservative of thinkers. To ignore his creativity in a cavalier fashion is to put too much weight on a perceived uselessness of beliefs that fall outside the pale of convention.

More importantly, unsubstantiated or not, some of his trains of thought may yet yield new kinds of insight, either because he was actually originally on target (even, if sometimes for the wrong reasons), or because we still have not dug deeply enough. In this work I explore a subject that I feel has been almost entirely neglected (but see Limeira-DaSilva 2019 and Sera-Shriar 2020): Wallace's place as an anticipatory voice to recent trends in science and social science admitting the possibility that much of what for years was put off as myth or legend is in fact based on real, but poorly documented or understood, events and phenomena.

## ***The Realm of Forbidden Knowledge***

For centuries civilization was shrouded in belief systems rooted largely in the supernatural or so-called 'common sense' – then along came the seventeenth and eighteenth century philosophical and intellectual revolution known as the Age of Enlightenment. Within the realm of science, a shift toward a greater reliance on facts and logic propelled a more rapid advance in both theoretical and applied forms of knowledge. By the nineteenth century, however, this movement was producing some reactionary countereffects, to the extent that many of the less straightforward elements of natural process were conveniently being denied as fictional, or entirely imaginary.

On the whole Wallace adopted Enlightenment views, especially as espoused by figures such as Thomas Paine, Alexander von Humboldt, and Jeremy Bentham, but he was never one to ignore any kind of evidence that came from what he believed were "men as intelligent and honest as himself." As a result, he was willing to look more closely into subjects that many others, casually assuming that the observed or alleged phenomena were merely remnants of an earlier, ignorant, kind of perception of things, were dismissing out of hand.

In our time, too, we have been dealing with the dimensions of this challenge, and increasingly. A robust questioning of engrained views on extreme natural phenomena is taking place, and this has not been restricted to the rants of conspiracy theorists and quacks. For example it is now accepted, contrary to a blasé uniformitarianism, that various kinds of large-scale catastrophic events have befallen our Earth, both in geologically ancient times, and much more recently. It is now equally acknowledged, for instance, that rapidly acting mass extinctions have occurred several times since the Paleozoic Era, and that these were likely caused either or both by collisions with extraterrestrial bodies, or spectacular mass volcanism episodes. Similarly, evidence has been found that the 'great floods' acknowledged by the ancients might be more than just legends, instead having possibly been related to extraordinary tsunamis, ice wall collapse, or glacial sea-level change events. Further, we have many thousands of reports of sightings of ufo phenomena, and just as many supposed encounters with a whole array of fantastical cryptid lifeforms.

To what extent extraordinary beings such as the last prove to have a real, illusory, or delusionary basis remains to be seen, but it appears to this observer that evidence bearing on their existence should not be pooh-poohed out of hand. The history of nature studies is rife with examples of claims of bizarre natural phenomena – including aberrant lifeforms – that at first were ridiculed, yet later proved to truly exist. Wallace himself once noted "The whole history of science shows us that whenever the educated and scientific men of any age have denied the facts of other investigators on *a priori* grounds of absurdity or impossibility, the deniers have always been wrong" (Wallace 1893a, pp. 440-441).

How did Wallace come to adopt such a position?

## ***The Foundations of Wallace's Belief System***

Human knowledge advances incrementally, its path enriched by a range of input types. Direct experience of events has always held primacy in this regard, but as our history has

been pieced together, appreciation of its elements has increasingly been influenced by curiosity, emotional and logical re-assessments, and the cumulative experience of the masses. The resulting belief systems have had a range of groundings in the 'factual world,' according to culture and time period. In the present work we needn't explore this notion further, but should at least relay some appreciation of the fundamental process underlying Wallace's own belief system.

This can be accomplished most succinctly by turning to a couple of oft-cited passages drawn from Wallace's early writings. The first comes from a Humboldt-esque essay he wrote in the early 1840s as a young man, selections from which appear in his autobiography *My Life*:

...He who has extended his inquiries into the varied phenomena of nature learns to despise no fact, however small, and to consider the most apparently insignificant and common occurrences as much in need of explanation as those of a grander and more imposing character. He sees in every dewdrop trembling on the grass causes at work analogous to those which have produced the spherical figure of the earth and planets; and in the beautiful forms of crystallization on his window-panes on a frosty morning he recognizes the action of laws which may also have a part in the production of the similar forms of plants and of many of the lower animal types. Thus the simplest facts of everyday life have to him an inner meaning, and he sees that they depend upon the same general laws as those that are at work in the grandest phenomena of nature . . . It is true that man is still, as he always has been, subject to error; his judgments are often incorrect, his beliefs false, his opinions changeable from age to age. But experience of error is his best guide to truth, often dearly bought, and, therefore, the more to be relied upon. And what is it but the accumulated experience of past ages that serves us as a beacon light to warn us from error, to guide us in the way of truth. How little should we know had the knowledge acquired by each preceding age died with it! How blindly should we grope our way in the same obscurity as did our ancestors, pursue the same phantoms, make the same fatal blunders, encounter the same perils, in order to purchase the same truths which had been already acquired by the same process, and lost again and again in bygone ages! Is it not fitting that, as intellectual beings with such high powers, we should each of us acquire a knowledge of what past generations have taught us, so that, should the opportunity occur, we may be able to add somewhat, however small, to the fund of instruction for posterity? Shall we not then feel the satisfaction of having done all in our power to improve by culture those higher faculties that distinguish us from the brutes, that none of the talents with which we may have been gifted have been suffered to lie altogether idle? (Wallace 1905, vol. 1, pp. 202-204)

Next, there is the following, part of a letter Wallace sent from the field to his brother-in-law Thomas Sims in 1861, but only first reaching print in the James Marchant commemorative volumes of 1916:

...You intimate that the happiness to be enjoyed in a future state will depend upon, and be a reward for, our belief in certain doctrines which you believe to constitute the essence of true religion. You must think, therefore, that belief is voluntary and also that it is meritorious. But I think that a little consideration will show you that belief is quite independent of our will, and our common expressions show it. We say, "I wish I could believe him innocent, but the evidence is too clear"; or, "Whatever people may say, I can never believe he can do such a mean action." Now, suppose in any similar case the evidence on both sides

leads you to a certain belief or disbelief, and then a reward is offered you for changing your opinion. Can you really change your opinion and belief, for the hope of reward or the fear of punishment? Will you not say, "As the matter stands I can't change my belief. You must give me proofs that I am wrong or show that the evidence I have heard is false, and then I may change my belief"? It may be that you do get more and do change your belief. But this change is not voluntary on your part. It depends upon the force of evidence upon your individual mind, and the evidence remaining the same and your mental faculties remaining unimpaired – you cannot believe otherwise any more than you can fly. Belief, then, is not voluntary. How, then, can it be meritorious? When a jury try a case, all hear the same evidence, but nine say "Guilty" and three "Not guilty," according to the honest belief of each. Are either of these more worthy of reward on that account than the others? Certainly you will say No! But suppose beforehand they all know or suspect that those who say "Not guilty" will be punished and the rest rewarded: what is likely to be the result? Why, perhaps six will say "Guilty" honestly believing it, and glad they can with a clear conscience escape punishment; three will say "Not guilty" boldly, and rather bear the punishment than be false or dishonest; the other three, fearful of being convinced against their will, will carefully stop their ears while the witnesses for the defence are being examined, and delude themselves with the idea they give an honest verdict because they have heard only one side of the evidence. If any out of the dozen deserve punishment, you will surely agree with me it is these. Belief or disbelief is therefore not meritorious, and when founded on an unfair balance of evidence is blameable. Now to apply the principles to my own case. In my early youth I heard, as ninety-nine-hundredths of the world do, only the evidence on one side, and became impressed with a veneration for religion which has left some traces even to this day. I have since heard and read much on both sides, and pondered much upon the matter in all its bearings. I spent, as you know, a year and a half in a clergyman's family and heard almost every Tuesday the very best, most earnest and most impressive preacher it has ever been my fortune to meet with, but it produced no effect whatever on my mind. I have since wandered among men of many races and many religions. I have studied man and nature in all its aspects, and I have sought after truth. In my solitude I have pondered much on the incomprehensible subjects of space, eternity, life and death. I think I have fairly heard and fairly weighed the evidence on both sides, and I remain an utter disbeliever in almost all that you consider the most sacred truths. I will pass over as utterly contemptible the oft repeated accusation that sceptics shut out evidence because they will not be governed by the morality of Christianity. You I know will not believe that in my case, and I know its falsehood as a general rule. I only ask, Do you think I can change the self-formed convictions of twenty-five years, and could you think such a change would have anything in it to merit reward from justice? I am thankful I can see much to admire in all religions. To the mass of mankind religion of some kind is a necessity. But whether there be a God and whatever be His nature; whether we have an immortal soul or not, or whatever may be our state after death, I can have no fear of having to suffer for the study of nature and the search for truth, or believe that those will be better off in a future state who have lived in the belief of doctrines inculcated from childhood, and which are to them rather a matter of blind faith than intelligent conviction. (Marchant 1916, pp. 65-67)

These two items convey the essence of Wallace's belief system: that knowledge is cumulative but must be systematically pursued, as belief is neither voluntary nor meritorious. Together, it is an argument for a strategy of self- and societal improvement founded on the exercise of what I have termed 'informed belief.' Thus was Wallace led to a rather pragmatic approach to the meaning and assessment of evidence (Smith 2019).

He was a careful observer and recorder of facts, and in their synthesis backed his interpretations with extensive reviews of the relevant technical literature.

He was also confident of his powers of reasoning, as indicated by the following words from his autobiography:

...This rather long digression may be considered to be out of place, but it is given in order to illustrate the steps by which I gradually acquired confidence in my own judgment, so that in dealing with any body of facts bearing upon a question in dispute, if I clearly understood the nature of the facts and gave the necessary attention to them, I would always draw my own inferences from them, even though I had men of far greater and more varied knowledge against me. Thus I have never hesitated to differ from Lyell, Darwin, and even Spencer, and, so far as I can judge, in all the cases in which I have so differed, the weight of scientific opinion is gradually turning in my direction. In reasoning power upon the general phenomena of nature or of society, I feel able to hold my own with them... (Wallace 1905, vol. 2, pp. 41-42)

...I possessed a strong desire to know the causes of things, a great love of beauty in form and colour, and a considerable but not excessive desire for order and arrangement in whatever I had to do. If I had one distinct mental faculty more prominent than another, it was the power of correct reasoning from a review of the known facts in any case to the causes or laws which produced them, and also in detecting fallacies in the reasoning of other persons. This power has greatly helped me in all my writings, especially those on natural history and sociology. The determination of the direction in which I should use these powers was due to my possession in a high degree of the two mental qualities usually termed emotional or moral, an intense appreciation of the beauty, harmony and variety in nature and in all natural phenomena, and an equally strong passion for justice as between man and man – an abhorrence of all tyranny, all compulsion, all unnecessary interference with the liberty of others. These characteristics, combined with certain favourable conditions, some of which have already been referred to, have determined the direction of the pursuits and inquiries in which I have spent a large portion of my life. (Wallace 1905, vol. 1, p. 224)

Which leads us in the direction of our present subject: Wallace was never afraid to 'push the envelope,' if he felt he was dealing with facts that allowed him to do so. Thus, as he says,

...Every discoverer who has promulgated new and startling truths, even in the domain of physics, has been denounced or ignored by those who represented the science of the day, as witness the long line of great teachers from Galileo in the dark ages to Boucher de Perthes in our own times. ...Science may be defined as knowledge of the universe in which we live – full and systematised knowledge leading to the discovery of laws and the comprehension of causes. The true student of science neglects nothing and despises nothing that may widen and deepen his knowledge of nature, and if he is wise as well as learned he will hesitate before he applies the term "impossible" to any facts which are widely believed and have been repeatedly observed by men as intelligent and honest as himself. (Wallace 1885a, p. 809)

A foundation of these leanings was his devotion to much of the philosophy of Alexander von Humboldt, especially the great German naturalist's position that the laws of nature interact with one another in ever more recondite ways (Smith 2012, 2016).

Considering Wallace's native curiosity, we may thus begin to understand his attention to such a large range of subjects, and sometime impatience with those whose minds, he felt, were not flexible enough to see reason.

### ***Wallace's Evolving Perspective***

Wallace grew up with a rather conventional Enlightenment outlook on superstitions; this is apparent from his sometimes rather harsh treatment of the beliefs of the rural Welsh in an essay he wrote around 1843 (it finally surfaced in print in his autobiography *My Life* in 1905: Wallace 1905, Vol. 1, pp. 206-222). These youthful opinions were destined to face a critical challenge. In early 1845 he witnessed trance phenomena elicited during a performance by a mesmerist named Spencer T. Hall (1812-1885), and soon afterward found himself able to elicit similar responses from some of the students he was teaching at that point (Wallace 1845). He had further successes of this sort during his following years in the Amazon. In 1893 he mentioned how this experience profoundly affected him: "I thus learnt my first great lesson in the inquiry into these obscure fields of knowledge, never to accept the disbelief of great men or their accusations of imposture or of imbecility, as of any weight when opposed to the repeated observation of facts by other men, admittedly sane and honest." (Wallace 1893a, p. 440).

In other writings (e.g., Smith 2019) I have advanced my belief that Wallace's adoption of spiritualism had relatively little effect on the development of most of his scientific positions, but now I must admit that in one sense, at least, it did. Then again, it was perhaps not so much spiritualism *per se*, but this earlier 'lesson' involving mesmerism: that one must not *assume* ignorant superstition underlies all of the more remote-from-convention phenomena, but instead first consider the possibility that a real world basis exists for belief in same. And this was not just a 'Devil's advocate' kind of position: he felt that unbiased assessments should begin with posed naturalistic explanations, no matter how divergent the phenomenon in question might be. Thus, my verdict elsewhere (Smith 2019, in prep. 2022; Smith & Kelsey 2014, p. 109) that his efforts to isolate causes, though possibly including ventures into the realms of scientism and hypernaturalism, never invoked theism: for example, he followed Spinozian logic arguing that the observed 'miracles' of the past ages were not necessarily fictions or violations of natural law, but in most cases likely consisted of phenomena not yet understood within a scientific context (see below).

This is not to say that Wallace always ended up adopting naturalistic explanations for divergent facts: sometimes he simply felt there was no credible backing evidence for the phenomena at hand. A good example of this was his denial, for several reasons, that reincarnation was a likely reality (Wallace 1878, 1890a, 1890b, 1904a). Some other examples are given later.

Nevertheless, it seemed to be deeply engrained in his nature to dispute what he felt to be overly simplistic appreciations of arcane subjects, whether of a legendary, mythical or paranormal kind. Let us now take a look at some of these assessments of particular phenomena, buoyed by Wallace's own words.

In 1872, Wallace penned a review of anthropologist Edward Tylor's book *Primitive*

*Culture.* In it he took Tylor to task for relegating the vast majority of the stories and beliefs of primitive peoples, including some related to spiritualism, to myth status:

More than half the work is occupied with the subject of "Animism" or the doctrine of souls. We are overwhelmed with elaborate details of the endlessly varied ideas and beliefs of men as to the soul, spirits, and gods. We are constantly told that each such belief or idea "finds its place," with the implication that it is thus sufficiently accounted for. But this capacity of being classified necessarily arises from the immense variety of such beliefs and from the fact that they are founded on natural phenomena common to all races, while the faculties by which these phenomena are interpreted are essentially the same in every case. Any great mass of facts or phenomena whatever can be classified, but the classification does not necessarily add anything to our knowledge of the causes which produced the facts or phenomena. We find at times great looseness of statement when Mr. Tylor attempts to account off-hand for superstitions. (Wallace 1872a, p. 70)

There was historical precedent for his remarks. Some years earlier, in 1866, Wallace had picked a public forum – the annual meeting of the British Association for the Advancement of Science – to express his views on the goals for collection of knowledge in the newly developing field of anthropology:

...Now it is our object as anthropologists to accept the well-ascertained conclusions which have been arrived at by the students of all these various sciences, to search after every new fact which may throw additional light upon any of them, and, as far as we are able, to combine and generalize the whole of the information thus obtained. We cannot, therefore, afford to neglect any facts relating to man, however trivial, unmeaning, or distasteful some of them may appear to us. Each custom, superstition, or belief of savage or of civilized man may guide us towards an explanation of their origin in common tendencies of the human mind. (Wallace 1867a, p. 93)

And in late 1870 Wallace had read an important paper at one of a series of 'weekly soirées' that later was published in several venues (including as the first chapter of his 1875 book *On Miracles and Modern Spiritualism*). The main subject of the essay was his distinctly Spinozian interpretation of so-called 'miracles':

...But there is another mode of defence which equally implies a claim to certain and absolute truth, and which is therefore equally unworthy and unphilosophical – that of ridicule, misrepresentation, or a contemptuous refusal to discuss the question at all. This method is used among us even now, for there is one belief, or rather disbelief, whose advocates claim more than papal infallibility, by refusing to examine the evidence brought against it, and by alleging general arguments which have been in use for two centuries to prove that it cannot be erroneous. The belief to which I allude is, that all alleged miracles are false; that what is commonly understood by the term supernatural does not exist, or if it does, is incapable of proof by any amount of human testimony; that all the phenomena we can have cognizance of depend on ascertainable physical laws, and that no other intelligent beings than man and the inferior animals can or do act upon our material world. These views have been now held almost unquestioned for many generations; they are inculcated as an essential part of a liberal education; they are popular, and are held to be one of the indications of our intellectual advancement; and they have become so much a part of our mental nature, that all facts and arguments brought against them are either ignored as unworthy of serious consideration, or listened to with undisguised contempt. Now this frame of mind is certainly not one favourable to the discovery of truth, and



strikingly resembles that by which, in former ages, systems of error have been fostered and maintained. The time has therefore come when it must be called upon to justify itself. (Wallace 1872b, p. 113)

He offered similar complaints a few years later in his next major paper on spiritualism, 'A Defence of Modern Spiritualism':

The assertion, so often made, that Spiritualism is the survival or revival of old superstitions, is so utterly unfounded as to be hardly worth notice. A science of human nature which is founded on observed facts; which appeals only to facts and experiment; which takes no beliefs on trust; which inculcates investigation and self-reliance as the first duties of intelligent beings; which teaches that happiness in a future life can be secured by cultivating and developing to the utmost the higher faculties of our intellectual and moral nature and by no other method, – is and must be the natural enemy of all superstition. Spiritualism is an experimental science, and affords the only sure foundation for a true philosophy and a pure religion. It abolishes the terms “supernatural” and “miracle” by an extension of the sphere of law and the realm of nature; and in doing so it takes up and explains whatever is true in the superstitions and so-called miracles of all ages. It, and it alone, is able to harmonise conflicting creeds; and it must ultimately lead to concord among mankind in the matter of religion, which has for so many ages been the source of unceasing discord and incalculable evil; – and it will be able to do this because it appeals to evidence instead of faith, and substitutes facts for opinions; and is thus able to demonstrate the source of much of the teaching that men have so often held to be divine. (Wallace 1874, p. 806)

Nearly twenty years later, he was still committing to this theme, as can be seen in a similar message communicated to the 1893 Chicago Psychical Conference:

...yet this cumbrous and unintelligible hypothesis finds great favour with those who have always been accustomed to regard the belief in a spirit world, and more particularly a belief that the spirits of our dead friends can and do sometimes communicate with us, as unscientific, unphilosophical, and superstitious. Why it should be unscientific, more than any other hypothesis which alone serves to explain intelligibly a great body of facts, has never been explained. The antagonism which it excites seems to be mainly due to the fact that it is, and has long been in some form or other, the belief of the religious world and of the ignorant and superstitious of all ages, while a total disbelief in spiritual existence has been the distinctive badge of modern scientific scepticism. But we find that the belief of the uneducated and unscientific multitude rested on a broad basis of facts which the scientific world scouted and scoffed at as absurd and impossible. Now, however, we are discovering, as this brief sketch has shown, that the alleged facts are one after another proved to be real facts ... This very brief and very imperfect sketch of the progress of opinion on the questions this Congress has met to discuss leads us, I think, to some valuable and reassuring conclusions. We are taught, first, that human nature is not so wholly and utterly the slave of delusion as has sometimes been alleged, since almost every alleged superstition is now shown to have had a basis of fact. (Wallace 1893a, p. 441)

And, lastly, in an interview given in 1904, Wallace shows that his position – this curious blend of core principles of Humboldt and Spinoza – had not changed any:

...The book [*Miracles and Modern Spiritualism*], in its total effect, is a destruction of that ridiculous word supernatural. With irresistible logic and extraordinary sweet reasonable-

ness Dr. Wallace shows that the 'supernatural' of one generation or of one country is the natural law of the next generation or of another more enlightened country. He will admit no supernatural agency into the world: but he protests against the phrase a violation of the laws of nature, because it implies that mankind is aware of all those laws. "To suppose that we have discovered all the laws of nature," he told me, "is quite ridiculous. Radium has come into the world to prove – not only that there was one law unsuspected hitherto by men of science, but that some of the former laws and dogmas of science were the heresies of partial knowledge. Humanity must always remain a learner. There is no finality in knowledge. If instead of thinking that to call a phenomenon supernatural demolishes the phenomenon and proves it to be mythical, men would only study the phenomenon as Darwin studied earthworms or Lyell studied fossils, there would be a speedier end to the number of mysteries still remaining in the world. It is only because these things are not studied that we still employ such terms as 'miracle' and 'supernatural.'" (Wallace 1904b, p. 77)

A pair of excerpts from one of his complaints on the fallibility of men of science are also relevant here:

...Nearer to our own day, painless operations during mesmeric trance were again and again denounced as imposture; and the various phenomena of mesmerism, as due to collusion and fraud: yet both are now universally acknowledged to be genuine phenomena. Even such a question of pure science as the evidence of the antiquity of man has met with similar treatment till quite recently. Papers by good observers, recording facts since verified, were rejected by our scientific societies, as too absurd for publication; and careful researches now proved to be accurate were ignored, merely because they were opposed to the general belief of geologists. ...Yet in the present day, when so many things deemed absurd and impossible a few years ago have become every-day occurrences, and in direct opposition to the spirit of the advice of their most eminent teachers, a body of new and most remarkable phenomena is ignored or derided without examination, merely because, according to received theories, such phenomena ought not to happen. The day will assuredly come when this will be quoted as the most striking instance on record of blind prejudice and unreasoning credulity. (Wallace 1871, pp. 30-31)

Another theme visible in many of Wallace's writings was his adoption of the so-called 'degeneration hypothesis': the idea that "man's intellectual and moral development reached almost its highest level in a very remote past." In 1907 he wrote:

...I was led to give attention to this subject by reading an address to the Literary and Philosophical Society of Liverpool in 1873 by a very acute and philosophical thinker, Mr. Albert Mott, in which he maintained that "our most distant glimpses of the past are still of a world peopled, as now, with men both civilised and savage"; and, further, "that we have often entirely misread the past by supposing that the outward signs of civilisation must always be the same, and must be such as are found among ourselves." It was in my address to the Biological Section of the British Association at Glasgow that I somewhat developed these ideas, passing in review the sculptures of Easter Island, the North American earth mounds, and the Great Pyramid, as well as "the elevation, at once intellectual and moral, displayed in the writings of Confucius, Zoroaster, and the Vedas," and reaching the conclusion that "man's intellectual and moral development reached almost its highest level in a very remote past." My final conclusion was thus expressed: "If the views now advanced are correct, many, perhaps most, of our existing savages are the descendants of higher races; and their arts, often showing a wonderful similarity in distant

continents, may have been derived from a common source among more civilised peoples.” These views I still hold, and they enabled me, in 1892, when studying the Australian type, for the purpose of a new edition of “Stanford’s Compendium of Geography,” to reach the conclusion that the Australian aborigines are really a degraded outlier of the great Caucasian type of man – that they are closely allied to ourselves, and are known, by all who have sympathetically studied them, to have many good qualities, both moral and intellectual. (Wallace 1907)

In the 1876 address he alludes to above, Wallace states:

The important thing for us, however, is that when North America was first settled by Europeans, the Indian tribes inhabiting it had no knowledge or tradition of any preceding race of higher civilization than themselves. Yet we find that such a race existed; that they must have been populous and have lived under some established government; while there are signs that they practised agriculture largely, as, indeed, they must have done to have supported a population capable of executing such gigantic works in such vast profusion; for it is stated that the mounds and earthworks of various kinds in the state of Ohio alone amount to between eleven and twelve thousand. In their habits, customs, religion, and arts they differed strikingly from all the Indian tribes: while their love of art and of geometric forms, and their capacity for executing the latter upon so gigantic a scale, render it probable that they were a really civilized people, although the form their civilization took may have been very different from that of later people subject to very different influences, and the inheritors of a longer series of ancestral civilizations. We have here, at all events, a striking example of the transition, over an extensive country, from comparative civilization to comparative barbarism, the former left to tradition and having hardly any trace of influence on the latter. ...

In all these respects this largest pyramid surpasses every other in Egypt. Yet it is universally admitted to be the oldest, and also the oldest historical building in the world. Now these admitted facts about the Great Pyramid are surely remarkable, and worthy of the deepest consideration. They are facts which, in the pregnant words of the late Sir John Herschel, “according to received theories ought not to happen,” and which, he tells us, should therefore be kept ever present to our minds, since “they belong to the class of facts which serve as the clue to new discoveries.” According to modern theories, the higher civilization is ever a growth and an outcome from a preceding lower state; and it is inferred that this progress is visible to us throughout all history and in all the material records of human intellect. But here we have a building which marks the very dawn of history, which is the oldest authentic monument of man’s genius and skill, and which, instead of being far inferior, is very much superior to all which followed it. Great men are the products of their age and country, and the designer and constructors of this wonderful monument could never have arisen among an unintellectual and half-barbarous people. So perfect a work implies many preceding less perfect works which have disappeared. It marks the culminating point of an ancient civilization, of the early stages of which we have no record whatever.

The three cases to which I have now adverted (and there are many others) seem to require for their satisfactory interpretation a somewhat different view of human progress from that which is now generally accepted. Taken in connexion with the great intellectual power of the ancient Greeks – which Mr. Galton believes to have been far above that of the average of any modern nation – and the elevation, at once intellectual and moral, displayed in the writings of Confucius, Zoroaster, and in the Vedas, they point to the conclusion that, while in material progress there has been a tolerably steady advance, man’s

man's intellectual and moral development reached almost its highest level in a very remote past. (Wallace 1877a, pp. 116-118)

Consistent with these thoughts, Wallace also argued that humankind itself likely had a much earlier period of origin than most sources were willing to grant:

...The extreme remoteness of the origin of man is also shown by the facts, that neither the size nor the form of the cranium of the prehistoric races shows any inferiority to those of existing savages, while the approximate equality of their mental powers is shown by the ingenious construction of weapons and implements, and the artistic talent which we find developed at a period when the reindeer and the mammoth inhabited the south of France. It has been argued that the inferiority of the early implements shows mental inferiority, but this is palpably illogical. Did Stephenson's first rude locomotive – the Rocket – show less mind in its constructor than the highly-finished products of our modern workshops? Or were the Greeks mentally inferior to us because they had rude cars instead of locomotives, and had no clocks, water-mills, steam-engines, or spinning-jennies? It is forgotten that arts are a growth, and have little relation to the mental status of the artificer. A number of European infants brought up among savages would not, probably, in many generations, invent even the commonest implements and utensils of their ancestral homes; and it is difficult to say how slow may have been the development of the arts in their earliest and by far most difficult stages. It is therefore by no means impossible that the makers even of the palæolithic implements may have been fully equal, mentally, to existing savages of by no means the lowest type. (Wallace 1881, p. 243)

...even at the present day the existence of man before the glacial period is vehemently denied by some geologists, and all the evidence brought forward to establish the fact is sought to be explained away with as much misspent ingenuity as was exerted in the case of the early finds of McEnery and Boucher de Perthes. Notwithstanding that almost every fact of the early discoveries has now been proved to have been a reality, every new fact which goes to show that man is only a little older than we have hitherto supposed, is still received with incredulity or neglect, although it is universally admitted that not only is there no antecedent improbability in these new discoveries, but that the theory of evolution, if it is worth anything, demands that the origin of man be placed very far back in the tertiary period. (Wallace 1887, p. 665)

Another branch of the subject was, if possible, still worse treated. In 1825, Mr. McEnery, of Torquay, discovered worked flints along with the remains of extinct animals in the celebrated Kent's Hole Cavern; but his account of his discoveries was simply laughed at. In 1840, one of our first geologists, Mr. Godwin Austen, brought this matter before the Geological Society, and Mr. Vivian, of Torquay, sent in a paper fully confirming Mr. McEnery's discoveries; but it was thought too improbable to be published. Fourteen years later, the Torquay Natural History Society made further observations, entirely confirming the previous ones, and sent an account of them to the Geological Society of London; but the paper was rejected, as too improbable for publication. Now, however, for five years past, the cave has been systematically explored under the superintendence of a Committee of the British Association, and all the previous reports for forty years have been confirmed, and have been shown to be even less wonderful than the reality. It may be said that "this was proper scientific caution." Perhaps it was; but at all events it proves this important fact – that in this, as in every other case, the humble and often unknown observers have been right; the men of science who rejected their observations have been wrong. (Wallace 1875a, pp. 19-20)

Beyond supporting these more general propositions, Wallace was also wary of casually dismissive explanations assuming a mythical status for a number of specific creatures and peoples, for example:

[In the Amazon] The men ... have the hair carefully parted and combed on each side, and tied in a queue behind. In the young men, it hangs in long locks down their necks, and, with the comb, which is invariably carried stuck in the top of the head, gives to them a most feminine appearance: this is increased by the large necklaces and bracelets of beads, and the careful extirpation of every symptom of beard. Taking these circumstances into consideration, I am strongly of opinion that the story of the Amazons has arisen from these feminine-looking warriors encountered by the early voyager. I am inclined to this opinion, from the effect they first produced on myself, when it was only by close examination I saw that they were men; and, were the front parts of their bodies and their breasts covered with shields, such as they always use, I am convinced any person seeing them for the first time would conclude they were women. ... The only objection to this explanation is, that traditions are said to exist among the natives, of a nation of "women without husbands." Of this tradition, however, I was myself unable to obtain any trace, and I can easily imagine it entirely to have arisen from the suggestions and inquiries of Europeans themselves. ... The Indians must no doubt have been overwhelmed with questions and suggestions about them, and they, thinking that the white men must know best, would transmit to their descendants and families the idea that such a nation did exist in some distant part of the country... (Wallace 1890c, pp. 343-344)

[on the reliability of native reports]: ...I was several times assured by different natives that this bird makes its nest in a hole under ground, or under rocks, always choosing a place with two apertures, so that it may enter at one and go out at the other. This is very unlike what we should suppose to be the habits of the bird, but it is not easy to conceive how the story originated if it is not true; and all travellers know that native accounts of the habits of animals, however strange they may seem, almost invariably turn out to be correct. (Wallace 1885b, p. 569)

[concerning the dugong]: ...on the warmer coasts of Queensland is found the sea-cow or dugong (*Halicore australis*), allied to the animal found in the Indian seas, but believed to be a distinct species. It was no doubt one of these animals that the old voyager Dampier referred to, when he states that they captured a very large shark on the north-west coast, "in which we found the head and bones of a hippopotamus, the hairy lips of which were still sound and not putrefied, and the jaw was also firm, out of which we plucked a great many teeth, two of them eight inches long and as big as a man's thumb small at one end and a little crooked, the rest not above half so long." This has been supposed to be a traveller's tale, but the details he gives of the hairy lips and the two long curved incisor teeth are quite correct as applied to the dugong, while the calling it a hippopotamus was very natural to a person ignorant of natural history. (Wallace 1893b, p. 66)

[on werewolves]: ...A recognition of the now well-established phenomena of mesmerism would have enabled Mr. Tylor to give a far more rational explanation of were-wolves and analogous beliefs than that which he offers us. Were-wolves were probably men who had exceptional power of acting upon certain sensitive individuals, and could make them, when so acted upon, believe they saw what the mesmeriser pleased; and who used this power for bad purposes. This will explain most of the alleged facts without resorting to the short and easy method of rejecting them as the results of mere morbid imagination and gross credulity. (Wallace 1872a, p. 70)

[on witches (part of an interview)]: I asked Dr. Wallace how it was that so few people possess mediumistic powers. He believes that we are witnessing a new birth of these faculties, and thinks that the only period in the world's history when the phenomena of spiritualism appeared to cease may be accounted for by "a well-known natural law." Witches were, undoubtedly, *mediums* – that is, "persons of the peculiar organisation required for the manifestation of modern spiritual phenomena." Witches are real enough, and common enough in history, and by calling them witches we do not explain the mystery they present to science. In the dark ages, however, any woman whose organisation lent itself to the operations of spiritual intelligences, was described as a witch, was believed to be possessed by the devil, and was burnt at the stake. They were "burnt or destroyed by thousands all over the so-called civilised world." (Wallace 1904b, pp. 78-79)

[on Socrates' 'demon']: It is no small thing that the spiritualist finds himself able to rehabilitate Socrates as a sane man, and his "demon" as an intelligent spiritual being who accompanied him through life, – in other words, a guardian spirit. The non-spiritualist is obliged to look upon one of the greatest men in human history, not only as subject all his life to a mental illusion, but as being so weak, foolish, or superstitious as never to discover that it was an illusion. He is obliged to disbelieve the fact asserted by contemporaries and by Socrates himself, that it forewarned him truly of dangers; and to hold that this noble man, this subtle reasoner, this religious sceptic, who was looked up to with veneration and love by the great men who were his pupils, was imposed upon by his own fancies, and never during a long life found out that they were fancies, and that their supposed monitions were as often wrong as right. (Wallace 1874, p. 797)

[as to whether moas lived on, into recent times] ...Remains more or less complete of 12 species of these birds, called Moas by the natives, have been found. They differ much in structure, proportions, and size, the largest being 10.5 feet high and the smallest about 3 feet. Some perfect skeletons have been found, and even remains of skin and feathers. A perfect egg, 10 inches long and 7 broad, was found in a native grave, as well as moa bones in old native cooking-places; so that there is every reason to believe the traditions of the natives, that their ancestors hunted these enormous birds for food. (Wallace 1893b, p. 446)

And in a little known but very interesting cultural biogeography essay published in 1904, Wallace begins his narrative as follows:

A considerable experience among savage and barbarous peoples, and some acquaintance with the records of past ages and the beliefs of unlettered peasants in all parts of the world, have convinced me that, in the great majority of cases, beliefs or legends referring to natural phenomena are founded on facts, and are for the most part actual descriptions of what has been observed, though often misinterpreted, and sometimes overlaid with supernatural accessories. A few examples of these it may be interesting to note. The enormous, almost double bills of some of the large Hornbills were only known to Pliny by exaggerated descriptions; and he therefore thought them to be altogether fabulous. If electric fishes had not been inhabitants of European seas, the powers of the electrical eels (*Gymnoti*) would certainly have been discredited when described by travellers in South America, as they were by many of the uneducated colonists. A Portuguese trader, with whom I lived on the Upper Rio Negro, told me one day about his experiences in handling one of these fishes, beginning by saying: "I know you won't believe me, I did not believe it till I felt it." And he added: "There is another thing you won't believe. If your fishing line is dry, the fishes can't hurt you; but if it is wet, you get struck through, almost the same as if you take hold of them." And he was very much surprised when I said

that I *did* believe him. The manner in which the young cuckoo ejects the eggs and young nestlings of its foster-parents, as described by Jenner a century ago, has been disbelieved by many naturalists down to the present time; but the fact has been re-observed quite recently, and photographs have been taken of the act itself, showing it to agree very closely with the original description. A somewhat similar case is that of the viper, whose young are said to run down the mother's throat in time of danger. This is believed by numbers of country people, who declare they have seen it take place; and some of these witnesses are educated persons. I have always believed this to be a fact, because there is no inherent impossibility or even difficulty in it, and because it is a kind of fact which is in itself easy to observe, and quite unmistakable. When residing in the city of Washington, in 1877, I was told by the Assistant Librarian of the Congressional Library, that, when he was a schoolboy, in Chester Co., Pennsylvania, he and a companion one day saw a viper or snake about two feet long, basking on a smooth rock, with a number of small snakes, four or five inches long, playing round its head. On my friend's appearance, the large snake made a peculiar sound, and opened its mouth, when the small snakes immediately ran towards its head and disappeared, some being *seen to go into the mouth of the mother*. The snake was caught, its mouth tied up, and taken home. On the body being opened, nearly twenty little snakes, just like those seen, came out... (Wallace 1904c, pp. 379-380)

From this starting point, he enters into a long discussion regarding a probable link between sounds made by one of the species of paradise birds, and a supposed mythical location mentioned in one of the *Arabian Nights* tales. Wallace concludes:

This very wild and fantastic account, which the reader may suppose to be wholly the work of imagination, has yet a basis of fact in every part of it. Even the idea that the whole journey could be made by land, has a foundation in the remarkable circumstance, that for more than two thousand miles, from Singapore along the coasts of Sumatra and Java to Wetter Island, near the north-east end of Timor, the islands run so continuously, with such narrow straits between them, which straits are often more or less blocked by islets, that, to a person sailing at about ten or twenty miles from the shore, they would appear as the coast of one great continent; while the remaining five hundred miles are so strewn with islands, that land is never out of sight ... Added to this, there would, no doubt, be rumours of the great country beyond Timor, and of the continuous land a thousand miles long beyond the Aru Islands, which might well have been supposed to be all connected together, and thus to render possible the continuous land route described in the story. This premised, the rest of the narrative becomes merely the exaggeration of natural phenomena, with supernatural explanations of some of them...(Wallace 1904c, p. 567)

Perhaps the most interesting of this lot is Wallace's interpretation of facts emerging from an 1891 American report titled *Remarkable Ancient Sculptures from North-west America*:

Mr. James Terry has just published descriptions and photographs of some of the most remarkable works of prehistoric man yet discovered on the American continent. The title of his paper is sufficiently startling, but it is fully borne out by the beautiful full-size and half-size photographic prints with which it is illustrated. They represent three rude, yet bold, characteristic, and even life-like sculptures of simian heads, executed in basalt. ... Prof. O. C. Marsh, who referred to [one of them] in his address "On Vertebrate Life in America," in the following terms: – "On the Columbia River I have found evidence of the former existence of inhabitants much superior to the Indians at present there, and of which no

tradition remains. Among many stone carvings which I saw, there were a number of heads which so strongly resembled those of apes that the likeness at once suggests itself. Whence came these sculptures and by whom were they made?" ... Mr. Terry's own conclusion ... is, "either that the animals which these carvings represent once existed in the Columbia valley, or that, in the remote past, a migration of natives from some region containing these monkeys reached this valley, and left one of the vivid impressions of their former surroundings in these imperishable sculptures." The latter alternative appears to me, for many reasons, to be highly improbable; and though the former will seem to many persons to be still more improbable, I am inclined provisionally to accept it. (Wallace 1891a, p. 396)

Wallace's remarks here are still interesting today, because this report is one of the first professional science works that have been said to bear on present-day Sasquatch studies: in it Wallace acknowledges that the existing evidence suggests the former (or present?) existence in Northwest America of a primate-like species.

Just for the sake of driving the point home, a few more Wallace quotes on related matters:

...The very word "supernatural," as applied to a fact, is an absurdity; and "miracle" if retained at all, requires a more accurate definition than has yet been given of it. To refuse to admit, what in other cases would be absolutely conclusive evidence of a fact, because it cannot be explained by those laws of nature with which we are now acquainted, is really to maintain that we have complete knowledge of those laws, and can determine beforehand what is or is not possible. The whole history of the progress of human knowledge shows us, that the disputed prodigy of one age becomes the accepted natural phenomenon of the next... (Wallace 1890c, p. 37)

...To refuse belief to unsupported rumours of improbable events, is enlightened scepticism; to reject all second-hand or anonymous tales to the injury or depreciation of anyone, is charitable scepticism; to doubt your own prepossessions when opposed to facts observed and re-observed by honest and capable men, is a noble scepticism. But the scepticism of Dr. Carpenter is none of these. It is a blind, unreasoning, arrogant disbelief, that marches on from youth to age with its eyes shut to all that opposes its own pet theories; that believes its own judgment to be infallible; that never acknowledges its errors. It is a scepticism that clings to its refuted theories, and refuses to accept new truths. (Wallace 1877b, p. 695)

...some geologists still exhibit a strange fear or hesitation in facing the whole results of modern inquiries on the subject. How is it that, whenever any estimate is made of the lapse of time (expressed in years) since any human remains or works of art were deposited, the lowest possible estimate is almost always chosen? One would think that, having once got beyond the traditional six thousand years, the period of man's past existence would be a matter of purely scientific inquiry, to be arrived at by careful estimates in a variety of ways. But how can we possibly arrive at the truth by always taking the lowest estimate? (Wallace 1873a, p. 463)

In *The Malay Archipelago* he goes full-circle, describing how *he himself* could potentially have inspired what others might suppose to be myth:



...It is not impossible that something similar to what they related to me really happened when the early Portuguese discoverers first came to Aru, and has formed the foundation for a continually increasing accumulation of legend and fable. I have no doubt that to the next generation, or even before, I myself shall be transformed into a magician or a demi-god, a worker of miracles, and a being of supernatural knowledge. They already believe that all the animals I preserve will come to life again; and to their children it will be related that they actually did so. An unusual spell of fine weather setting in just at my arrival has made them believe I can control the seasons; and the simple circumstance of my always walking alone in the forest is a wonder and a mystery to them, as well as my asking them about birds and animals I have not yet seen, and showing an acquaintance with their forms, colors, and habits. These facts are brought against me when I disclaim knowledge of what they wish me to tell them. ...every confession of ignorance on my part is thought to be a blind, a mere excuse to avoid telling them too much. My very writing materials and books are to them weird things; and were I to choose to mystify them by a few simple experiments with lens and magnet, miracles without end would in a few years cluster about me; and future travellers, penetrating to Wanumbai, would hardly believe that a poor English naturalist, who had resided a few months among them, could have been the original of the supernatural being to whom so many marvels were attributed. (Wallace 1885b, pp. 472-473)

A few further relevant quotes, mostly related to the subject of miracles:

...I have confined this discussion [on apparitions] strictly to the one question of *objectivity*, a term that does not necessarily imply *materiality*. (Wallace 1891b, p. 146)

...Philologists have discovered, as the result of long and laborious research, what they hold to be the roots or fundamental units of each of the great families of language; but these roots themselves are supposed to be for the most part conventional, or, if they had in the very beginning of language any natural meaning, this is held to have been so obscured by successive changes of form and structure as to be now usually undiscoverable. As regards a considerable number of the words which occur under various forms in a variety of languages, and which seem to have a common root, this latter statement may be true, but it is by no means always, and perhaps not even generally, true. In our own language, and probably in all others, a considerable number of the most familiar words are so constructed as to proclaim their meaning more or less distinctly, sometimes by means of imitative sounds, but also, in a large number of cases, by the shape or the movements of the various parts of the mouth used in pronouncing them, and by peculiarities in breathing or in vocalisation, which may express a meaning quite independent of mere sound-imitation. (Wallace 1895a, p. 528)

...It was well observed by the late Dr. W. B. Carpenter that new and startling facts, however well attested, are often rejected because they are held to be opposed to the indisputable conclusions of science; hence people find that "there is no place in the fabric of their thought into which such facts can be fitted," and until such a place is made for them further evidence of the same nature is useless.... (Wallace 1895b, p. v)

...[Mr. Lecky states] "when their imaginations are still incapable of rising to abstract ideas, histories of miracles are always formed and always believed; and they continue to flourish and to multiply until these conditions are altered. Miracles cease when men cease to believe and expect them." Again: "We do not say they are impossible, or even that they

are not authenticated by as much evidence as many facts we believe. We only say that, in certain states of society, illusions of this kind inevitably appear." ... "Sometimes we can discover the precise natural fact which the superstition has misread, but more frequently we can give only a general explanation, enabling us to assign these legends to their place, as the normal expression of a certain stage of knowledge or intellectual power; and this explanation is their refutation." Now, in these statements and arguments of Mr. Lecky, we find some fallacies hardly less striking than those of Hume. His assertion that in certain stages of society an accretion of miracles is invariably formed round every prominent person or institution, appears to me to be absolutely contradicted by well-known historical facts. (Wallace 1875a, pp. 20-21.)

...The now well-known argument, that all the miracles related in the Gospels were mere myths, which in periods of ignorance and credulity always grow up around all great men, and especially around all great moral teachers when the actual witnesses of his career are gone and his disciples begin to write about him, was set forth with great skill. This argument appeared conclusive to my brother and some of his friends with whom he discussed it, and, of course, in my then frame of mind it seemed equally conclusive to me, and helped to complete the destruction of whatever religious beliefs still lingered in my mind. It was not till many years afterwards that I saw reason to doubt this whole argument, and to perceive that it was based upon pure assumptions which were not in accordance with admitted historical facts. (Wallace 1905, vol. 1, pp. 227-228)

...The philosophical argument has been put in another form by Mr. E. B. Tylor, in a lecture at the Royal Institution, and in several passages in his other works. He maintains that all Spiritualistic and other beliefs in the supernatural are examples of the survival of savage thought among civilised people; but he ignores the facts which compel the beliefs.... I entirely deny the value or relevance of any general arguments, theories, or analogies, when we have to decide on matters of fact. (Wallace 1875a, pp. 26-27)

...One common fallacy appears to me to run through all the arguments against facts deemed miraculous, when it is asserted that they violate, or invade, or subvert the laws of nature. This is really assuming the very point to be decided, for if the disputed fact did happen, it could only be in accordance with the laws of nature, since the only complete definition of the "laws of nature" is that they are the laws which regulate all phenomena. (Wallace 1875a, pp. 36-37)

...Thus Humboldt declares, that "a presumptuous skepticism, which rejects facts without examination of their truth, is, in some respects, more injurious than an unquestioning incredulity." (Wallace 1871, p. 30)

Despite the evident weight of this kind of thinking on his world view, Wallace was not in the habit of arbitrarily accepting any and all claims of authenticity of phenomena. For example, in an 1875 book review he rejected the fantastic claims of a supposed New Guinea adventurer (1875b). Later, in 1893, he examined, and then rejected as unlikely, the posed existence of an otter-like creature living in New Zealand (Wallace 1893b). In his *Malay Archipelago* (1885b, p. 344) he expressed doubt as to whether a particular species of paradise bird he had been told about really existed, and in *Travels in the Amazon* (1890c) he dismissed a number of supposed animal behaviors as mere stories. By 1880, and his *Island Life*, he was characterizing the alleged land-bridge known as

Lemuria as a myth unsubstantiated by the known facts of animal distribution. And he could also *change* his mind as new evidence presented itself, as discussed in Smith (2021).

Lastly here, we can suggest that Wallace's attitude toward instinct seems to derive from a closely related train of thought. Regarding instinct, he was of an "I'm from Missouri" school: that is, that behaviors some assumed to be instinctual – and thus beyond immediate conception – might just as likely be learned ones. In 1867, for example, he wrote:

...A fair consideration of all these facts will, I think, fully support the statement with which I commenced this article, and show that the mental faculties exhibited by birds in the construction of their nests are the same in kind as those manifested by mankind in the formation of their dwellings. These are, essentially, imitation, and a slow and partial adaptation to new conditions. To compare the work of birds with the highest manifestations of human art and science is totally beside the question. I do not maintain that birds are gifted with reasoning faculties at all approaching in variety and extent to those of man. I simply hold that the phenomena presented by their mode of building their nests, when fairly compared with those exhibited by the great mass of mankind in building their houses, indicate no essential difference in the kind or nature of the mental faculties employed. If instinct means anything, it means the capacity to perform some complex act without teaching or experience. It implies innate ideas of a very definite kind, and, if established, would overthrow Mr. Mill's sensationalism and all the modern philosophy of experience. That the existence of true instinct may be established in other ways is not improbable, but in the particular case of birds' nests, which is usually considered one of its strongholds, I cannot find a particle of evidence to show the existence of anything beyond those lower reasoning powers which animals are universally admitted to possess. (Wallace 1867b, p. 420)

Some years later, in a letter on "inherited feeling" to *Nature*, he adds:

...I maintain that the senses and mental powers of the lower animals are probably so different from ours, and are so little known, that we cannot safely arrive at conclusions drawn from a comparison of their actions with ours; but that among the higher animals, where there is a closer resemblance in senses and mental powers to ourselves, the facts which I throughout appeal to, do not prove instinct. I maintain that experiments on instinct have not been sufficiently carried on, and I conclude, not that there is no such thing as instinct, but that it should not be accepted as proved in any particular case "until all other possible modes of explanation have been exhausted." (Wallace 1872c)

And, as part of another ongoing discussion in *Nature*, on the home-seeking behaviors of dogs and horses, he writes:

...Now the power many animals possess to find their way back over a road they have travelled blindfolded (shut up in a basket inside a coach for example) has generally been considered to be an undoubted case of true instinct. But it seems to me that an animal so circumstanced will have its attention necessarily active, owing to its desire to get out of its confinement, and that by means of its most acute and only available sense it will take note of the successive odours of the way, which will leave on its mind a series of images as distinct and prominent as those we should receive by the sense of sight. The recurrence of these odours in their proper inverse order – every house, ditch, field, and village having

its own well-marked individuality – would make it an easy matter for the animal in question to follow the identical route back, however many turnings and cross-roads it may have followed. (Wallace 1873b)

I would argue that all of these examples point to an aversion on Wallace's part to explanations of aberrant phenomena arrived at through cavalier demotions to superstition, myth or legend. For Wallace, everything was, potentially at least, 'real,' and deserving of connection to other 'real' things. It didn't matter to him whether others deemed a phenomenon 'material' or 'nonmaterial,' as long as it was observable, and *had* been observed and reported, to the best of ability.

## **Conclusion**

In recent years, the opening sequence of the History Channel program *Ancient Aliens* has featured the following advice: "There is a doorway in the universe; beyond it is the promise of truth. It demands we question everything we have ever been taught. The evidence is all around us." Despite the show's all-too-frequent low standard of argumentation in defending its various assertions, this is not at its heart bad advice. Experience has in fact shown that previous assumptions about our history and its place within nature are often overturned through new appreciations, or by unforeseen discoveries. This is not to suggest that any wild claim about our existence should be blindly endorsed, but neither, at the same time, should it be accepted that ignorance is bliss. Sometimes ignorance is just a dismissive form of acceptance, but just as often – and perhaps increasingly – it is the product of attempted manipulations by selfish entities that don't want anyone upsetting the *status quo*.

So, and despite their sometimes tacky approach, programs like *Ancient Aliens* are relaying a message that is actually rather admirable: Don't accept what is merely convenient to believe. In the particular case of unidentified flying objects, it has been argued by 'responsible sources' that, even if advanced societies do exist out there in the recesses of space, they are so far away that their inhabitants would be quite unable to reach out to us. But this is a weak conclusion. The technological capabilities of civilizations perhaps tens of thousands of years or more in advance of us would be far beyond our imagination, and might easily include vehicles capable of approaching or superseding the speed of light – and this even assumes that 'shortcuts' such as wormholes are not in play, or even that nonphysical means of travel and/or projection are an impossibility. Further, on what basis do we conclude that a civilization advanced enough to get here has reasons for doing so reducing to simple curiosity, fear of us (!), natural resources appropriation, or some inherent desire to annihilate us as competitors? Have some faith: does it make sense to project such crass objectives as being worthy of a more highly evolved society? Would their evolutionary path likely define itself through 'king of the hill' acts of wanton annihilation?

Another emphasis of the *Ancient Aliens* folks is the notion that we, the mass of uninformed, are sometimes being lied to – that is, as suggested above, being manipulated by those in power. It would take a rather high degree of naivete to argue that such does not go on regularly in our world, and although it can charitably be admitted that this may sometimes be called for, on the whole manipulation usually conceals motives that are no

better than self-serving. Facts concealed, or ignored, only rarely benefit the majority.

Even when no ulterior motives are involved, truth usually ends up being more instructive than fiction. Yes, often the truth hurts, whether within the scope of personal behavior, or across the social consciousness, but denials ultimately lead us to repeat our mistakes. We should not underestimate the importance of Wallace's contribution in this regard; his philosophical policy of promoting 'informed belief' – at a time when as a society we were just beginning to fully appreciate the importance of understanding our past – helped put us into a more proper questioning mode. Importantly, we should recognize that his constant appeals for closer examinations of the facts were in themselves courageous and admirable. And, while we can be sure that some of his specific conclusions will ultimately fall short of the mark, his efforts overall have given us a better appreciation of accurate historical context, and the way this nurtures our explorations of natural causation.

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